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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/930,057	08/15/2001	Thomas Lechner	450117-03517	1174

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EXAMINER
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WOZNIAK, JAMES S

ART UNIT	PAPER NUMBER
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2626

DATE MAILED: 07/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/930,057

Applicant(s)

LECHNER, THOMAS

Examiner

James S. Wozniak

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. In response to the office action from 12/22/2005, the applicant has submitted an amendment, filed 4/24/2006, amending claims 1-20, while arguing to traverse the art rejection based on the limitation regarding varying a number for samples based on a selected pitch (*Amendment, Pages 9-10*). Applicant's arguments have been fully considered, however the previous rejection is maintained due to the reasons listed below in the response to arguments.
2. Due to the amendments of Claims 9 and 19, the examiner has withdrawn the previous objections directed towards minor informalities.
3. In response to the applicant's comments regarding an unconsidered IDS (*Amendment, Page 7*), The examiner notes that the information disclosure statement (IDS) submitted on 8/15/2001 was previously considered in the non-final office action from 5/6/2004.

### ***Response to Arguments***

4. Applicant's arguments have been fully considered but they are not persuasive for the following reasons:

With respect to the independent claims, the applicant argues that the prior art fails to teach the generation of sound with a selected pitch based on the number of read out audio samples (*Amendment, Pages 9-10*). The applicant further argues that Pearson (U.S. Patent: 5,400,434) does not disclose or suggest varying a sample rate since Pearson discloses that an output sample rate remains constant (*Amendment, Pages 9-10*).

In response, the examiner points out that the currently claimed invention requires that “*the number of said samples read out varies depending on said selected pitch for said selected sound*” (see claim 1, lines 14-15 and claims 11-12) and not varying a output sample rate or audio data output speed based on a selected pitch as is argued in the applicant’s response. While the applicant is correct in noting that Pearson discloses maintaining a constant audio output rate (Col. 7, Lines 2-3), the examiner notes that Pearson does disclose *varying a number of audio samples read out* to alter the pitch of an audio output (*selectively reading out additional audio samples to alter pitch, Col. 6, Line 58- Col. 7, Line 10*), as is required by the presently claimed invention. Thus, since Pearson discloses selectively reading out additional audio samples to stretch out an audio signal for altered pitch, the independent claims remain rejected.

Furthermore, in response to applicant's argument that the references fail to show certain features of applicant’s invention, it is noted that the features upon which applicant relies (*i.e., varying a output sample rate or audio data output speed based on a selected pitch*) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to the applicant's challenge of the official notice taken with respect to claims 3, 10, 13, and 20 (*Amendment, Pages 10-12*), the examiner has provided support for the official notice in the below rejections (*See MPEP 2144.03 (C)*).

The remaining dependent claims are argued as further limiting a rejected independent claim (*Amendment, Page 10*), and thus, also remain rejected.

### *Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1-2, 4-9, 11-12, and 14-19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Morishima (*EP 0795845*) in view of Lindgren (*WO 99/65221*), and further in view of Pearson (*U.S. Patent: 5,400,434*).

With respect to **Claims 1 and 11**, Morishima discloses:

Sound generating device for a mobile terminal of a wireless telecommunication system,  
with:

Memory means (5) for storing waveforms, each waveform corresponding to a sound and each waveform comprising a predetermined number of samples (*musical note data stored in a memory, Col. 4, Lines 27-47*),

Selecting means (3) for selecting a sound and a pitch for said sound to be generated (*user ability to compose a melody, Col. 1, Lines 33-36, utilizing the scale map of Fig. 3, containing note and tone or pitch data; Col. 4, Line 27- Col. 5, Line 34*),

Calculating means (6) for calculating, on the basis of a preset calculation rule, a sound table from the samples of the waveform of a selected sound (*preliminary formulation of a scale map containing combined tone and note information, Col. 4, 27-39, and Fig. 3*),

Reading means (8) for reading out a part of the samples from said calculated sound table depending on said selected pitch for said sound (*CPU for processing note and tone data for melody production based upon information read from the scale map, Col. 7, Lines 45-53*), and

Output means (2) for outputting a sound on the basis of said part of samples read out from said reading means (*generation of a musical note with tone or pitch data, Col. 7, Lines 53-56, using a loudspeaker, Fig. 2, Element 11; Col. 4, Lines 27-47*).

Memory means for storing sounds in the form of waveforms, so that each waveform corresponds to a sound, wherein each sound has a typical frequency distribution and digitally sampling such a frequency distribution with a predetermined number of samples gives a waveform (*Page 6, Line 17- Col. 7, Line 25*);

Morishima and Lindgren are analogous art because they are from a similar field of endeavor in sound generation devices. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teaching of Morishima with the means for generating musical notes by digitally sampling a frequency distribution with a predetermined number of samples to provide a means of efficiently creating a high quality initial ringtone without having to utilize a keyboard (*Lindgren, Page 8, Lines 1-3*).

Although Morishima teaches a means for creating a musical tone sound table and Lindgren further teaches storing musical tones generated from a sampled audio waveform, Morishima in view of Lindgren does not teach a means for altering the pitch of the stored audio waveform samples, wherein the pitch is altered according to a number of read samples or calculating additional samples between adjacent samples of the waveform, however Pearson teaches a system for altering the pitch of a sound waveform that calculates additional samples between adjacent waveform samples through interpolation and reads out a varying number of samples based on a desired pitch (*Col. 4, Lines 1-15; Col. 6, Line 58- Col. 7, Line 10*).

Morishima, Lindgren, and Pearson are analogous art because they are from a similar field of endeavor in sound generation devices. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Morishima in view of Lindgren with the means for altering pitch as taught by Pearson in order to provide the capability of quickly and reliably producing a high quality sound output through pitch alteration (*Pearson, Col. 3, Lines 65-68*).

With respect to **Claims 2 and 12**, Lindgren further teaches waveform samples created from a single input period (*Page 6, Line 17- Col. 7, Line 25*).

With respect to **Claims 4 and 14**, Pearson teaches the means for calculating additional samples within a sound table through the use of interpolation, as applied to Claims 1 and 11.

With respect to **Claims 5 and 15**, Pearson teaches that a difference in the number of additional interpolated points results in a difference in pitch (*Col. 6, Line 58- Col. 7, Line 10*).

With respect to **Claims 6 and 16**, Pearson further teaches that a fewer number of samples results in a higher pitch (*Col. 7, Lines 7-10*).

With respect to **Claims 7-8 and 17-18**, Pearson discloses a waveform sampling rate based on a desired pitch (*Col. 7, Lines 7-10*).

With respect to **Claims 9 and 19**, Pearson further teaches that a fewer number of samples results in a higher pitch (*Col. 7, Lines 7-10*).

7. **Claims 3 and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Morishima (*EP 0795845*) in view of Lindgren (*WO 99/65221*), further in view of Pearson (U.S. Patent: 5,400,434), and yet further in view of Malah ("*Cepstral Residual Vocoder for Improved Quality Speech Transmission at 4.8 kbps*," 1982) (*in support of official notice, see section 4*).

With respect to **Claim 3 and 13**, Morishima in view of Lindgren, and further in view of Pearson, teaches the ring tone generation system utilizing a scale map containing pitch and note data, as applied to Claims 1 and 11. Morishima in view of Lindgren, and further in view of Pearson, does not specifically suggest that each note waveform consists of 51 samples, however, Malah teaches such a 51 bit (sample) audio signal (*Page 624*).

Morishima, Lindgren, Pearson, and Malah are analogous art because they are from a similar field of endeavor in sound generation devices. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Morishima in view of Lindgren and further in view of Pearson with the 51 bit audio signal taught by Malah in order to achieve audio data of a sufficient quality capable of being implemented with well-known and readily available hardware (*Malah, Pages 622 and 624*).



8. **Claims 10 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Morishima (*EP 0795845*) in view of Lindgren (*WO 99/65221*), further in view of Pearson (U.S. Patent: 5,400,434), and yet further in view of Dunlap et al (*U.S. Patent: 5,748,534*) (*in support of official notice, see section 4*).

With respect to **Claims 10 and 20**, Morishima in view of Lindgren, and further in view of Pearson, teaches the ring tone generation system utilizing a scale map containing tone and note data and featuring reading means for reading out a sound signal, as applied to Claims 7 and 17. Morishima in view of Lindgren, and further in view of Pearson, does not specifically suggest a read-out sampling rate of 8kHz, however, Dunlap teaches such a read out sampling rate (*Col. 6, Lines 5-40*).

Morishima, Lindgren, Pearson, and Dunlap are analogous art because they are from a similar field of endeavor in sound generation devices. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Morishima in view of Lindgren and further in view of Pearson with the read-out sampling rate of 8kHz taught by Dunlap in order to implement a well-known voice playback rate that provides adequate sound quality (*Col. 6, Lines 5-40*).

### ***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Sharp (*U.S. Patent: 5,262,581*)- teaches a method for accomplishing different pitches for sounds within a wave table by changing a sampling rate of an originally sampled waveform.

Mitton (*U.S. Patent: 6,355,869*)- teaches a method for changing waveform pitch by altering the sampling rate.


11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Wozniak whose telephone number is (571) 272-7632. The examiner can normally be reached on M-Th, 7:30-5:00, F, 7:30-4, Off Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached at (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James S. Wozniak  
6/12/2006



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